

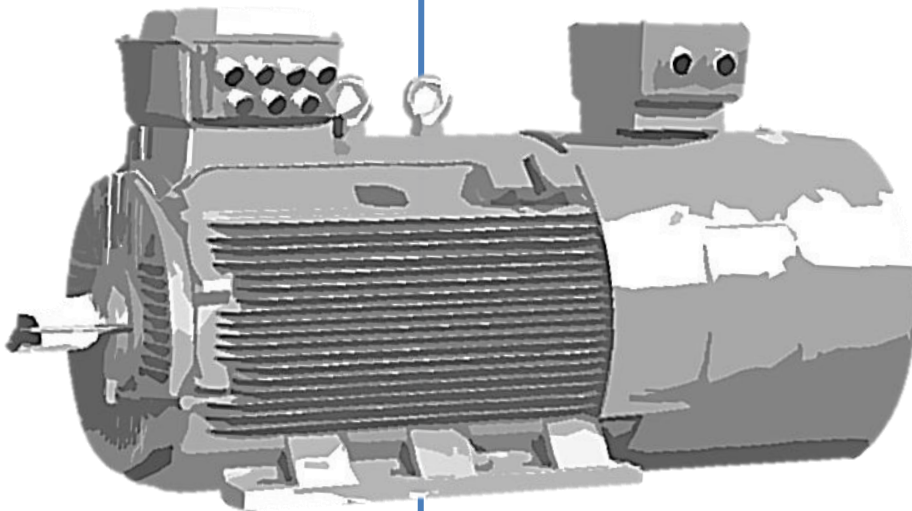


Electric Motors - [www.felm.it](http://www.felm.it)

# SLIP RING MOTORS



## FR2 SERIES







## GENERAL CHARACTERISTICS

The design, manufacturing and testing of squirrel cage induction motors made by Felm® are in accordance to IEC standard, Felm supply high quality steel frame motors with high performance and flexibility to meet customer request. The motors are widely used in various industries like: mining, pumps, compressors, wind machineries, fans ect.

With cast iron or welded frame with flange

Power range : 55kW-450kW

Frame range: H280-400

Protection: IP55 *uct advantages*

*FR series are slip ring motors that can support big start torque under low start current. They're used:*

*Big start torque - Low supply line - Long start time and frequent start*

Number of Poles: 4-6-8

Cooling system: IC411

(Options IC416)

Die casting Rotor

Shaft sealing:

O-Ring

*Deep & Bake insulation*

*(option double impregnation VI)*

Insulation class F (class B temperature rise)

Degree of protection IP55

(Options IP56 - IP65 – IP66)

Mounting: B3

Final colour: RAL 5010

(Options other types of colours)

Painting plan: C2

(Options C3-C4-C5-Marine-Chemical)

Internal epoxy coating

(Options tropicalization - humidity >95%)

Amb. temp.: -20°C/+40°C

(Options amb. up to -40°C)

Sintered drain plug

Terminal box : Top

(Options right or left)

Shaft Material: C45

(Options other types of materials)

Double grounding (1 inside terminal box + 1 on the frame)

Grease Caltex SRI-2 or SKF LGHP2

(Different types recommended by Felm)

Re-greasing devices

### Options:

Space Heaters

PT100 windings and bearings

Transmitters

Vibration probes

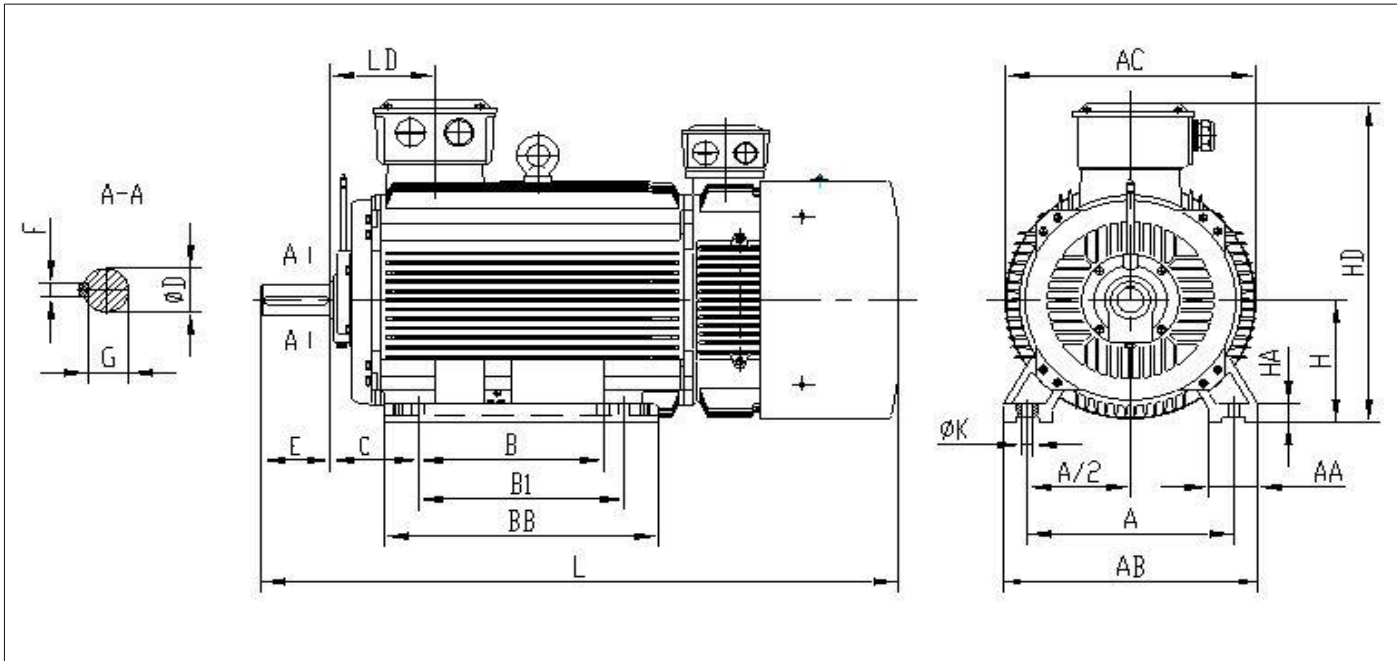
Junction box

Special shaft materials

Motor Type	● FR2 SERIOUS H280-400 400V IP55					Rotor		Maximum Torque	Weight
	Rated Power	Current	Rated Speed	Efficiency	Power Factor	Voltage	Current		
	kW	A	r/min	η%	cosφ	V	A	Rated Torque	
								Kg	
FR2-280S-4	55	98	1480	91	0,89	291	118	3,0	670
FR2-280M-4	75	134	1480	92	0,88	397	116	3,2	740
FR2-280S-6	37	68	985	92	0,86	259	88	3,2	605
FR2-280M-6	45	83	985	92	0,85	300	92	3,0	640
FR2-280S-8	30	65	735	91	0,73	215	85	3,0	600
FR2-280M-8	37	80	735	91	0,73	261	87	3,2	640
FR2-315S-4	90	156	1480	94,5	0,88	215	260	2,6	981
FR2-315M-4	110	193	1485	93,5	0,88	412	162	3,2	1090
FR2-315L-4	132	227	1485	94,5	0,89	496	160	3,2	1200
FR2-315LX-4	160	281	1485	94,5	0,87	620	155	3,2	1250
FR2-315S-6	75	136	990	93,5	0,85	298	153	2,6	1025
FR2-315M-6	90	163	990	93,5	0,85	225	245	2,6	1100
FR2-315L-6	110	199	990	94	0,85	448	148	2,6	1200
FR2-315S-8	55	105	740	93	0,81	265	125	2,6	965
FR2-315M-8	75	143	740	93,2	0,81	315	145	2,6	1041
FR2-315L-8	90	172	740	93,5	0,81	385	140	2,6	1131
FR2-355M-4	200	345	1485	95	0,88	492	248	3,0	1910
FR2-355L-4	250	431	1485	95,2	0,88	573	265	3,0	1995
FR2-355LX-4	280	481	1485	95,5	0,88	625	272	3,0	2040
FR2-355M-6	132	238	990	94	0,85	227	353	2,0	1750
FR2-355MX-6	160	288	990	94,2	0,85	365	265	2,6	1830
FR2-355L-6	200	358	990	94,8	0,85	420	290	2,6	1930
FR2-355M-8	110	206	740	94	0,82	385	175	2,6	1860
FR2-355L-8	132	247	740	94,1	0,82	495	160	2,6	1950
FR2-355LX-8	160	299	740	94,2	0,82	575	165	2,6	2030

Motor Type	● FR2 SERIOUS H280-400 400V IP55					Rotor			Weight
	Rated Power	Current	Rated Speed	Efficiency	Power Factor	Voltage	Current		
	kW	A	r/min	η%	cosφ	V	A	Maximum Torque	Kg
								Rated Torque	
FR2-400-4	355	623	1480	94,6	0,87	510	425	2,5	3400
FR2-400-4	400	700	1480	94,8	0,87	572	425	2,6	3470
FR2-400-4	450	786	985	95	0,87	652	416	2,6	3580
FR2-400-4	500	872	985	95,1	0,87	655	464	2,7	3680
FR2-400-6	280	509	735	94,5	0,73	558	308	2,4	3620
FR2-400-6	315	572	1480	94,6	0,91	627	306	2,4	3725
FR2-400-6	355	644	1485	94,7	0,9	719	301	2,4	3930
FR2-400-6	400	724	1485	94,9	0,91	774	315	2,4	4180
FR2-400-6	450	814	1485	95	0,9	912	298	2,5	4420

## FR2 Frame 280-400 - IP55 - B3



Frame Size	Pole	Mounting Dimensions And Tolerance													
		A	B	B1	C	D	E	F	G	H	K				
280S	4~8	457±1.5	368±1.4	—	190±3	75	+0.030 +0.011	140±0.5	20	0 -0.052	67,5 -0.2	280	0 -1	24	+0.52 0
280M	4~8	457±1.5	419±1.5	—	190±3	75	+0.030 +0.011	140±0.5	20	0 -0.052	67,5 -0.2	280	0 -1	24	+0.52 0
315S	4~8	508±1.5	406±1.5	—	216±4	80	+0.030 +0.011	170±0.5	22	0 -0.052	71 -0.2	315	0 -1	28	+0.52 0
315M,L	4~8	508±1.5	457±1.5	508±1.5	216±4	80	+0.030 +0.011	170±0.5	22	0 -0.052	71 -0.2	315	0 -1	28	+0.52 0
355M,L	4~8	610±1.6	560±1.5	630±1.6	254±4	100	+0.035 +0.013	210±0.5	28	0 -0.052	90 -0.2	355	0 -1	28	+0.52 0
400	4~8	686	630	710	280±4	110	0,035 -0,013	210±0.5	28	0 -0,052	100 -0,2	400	0 -1	35	0,052 0

Frame Size	Pole	Outline Dimensions								
		AA	AB	AC	BB	HA	HD	LD	L	—
280S	4~8	85	545	550	490	35	685	215	1255	—
280M	4~8	85	545	550	540	35	685	215	1305	—
315S	4~8	120	630	625	680	48	845	257	1465	—
315M,L	4~8	120	630	625	680	48	845	257	1575	—
355M,L	4~8	116	730	710	750	52	965	284	1860	—
400	4~8	120	810	870	1090	45	1123	362	2350	—

All data (technical, dimensions, etc..) listed in the tables are indicative and not binding. The guaranteed values are upon request. Felm srl reserves the right to change the project, the technical characteristics and dimensions at any time without previous notice.



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